Effect of high concentrations of salts on plants

[illegible] and [illegible]

[illegible]

CHERNYAD'YEV, I.

Our city in the seven-year plan. Zhil.-kom.khoz. 9 no.10:3-4
' 59. (MIRA 13:2)

1. Glavnyy arkhitektor g.Chelyabinska.
(Chelyabinsk--Municipal services)

GARAGULYA, L.S.; CHERNYAD'YEV, V.P.

Forecasting a change in the freezing condition of dragging areas in the northern Yenisey Range region effected by thermal and water-thermal melioration. Merzl. issl. no.3: 56-62 '63. (MIRA 17:6)

EPSHTEYN, G.M. [deceased]; CHERNYAD'YEV, V.P.

Effect of denudation and sedimentation on the dynamics of rocks frozen over a period of many years in the conditions governing the southern boundary of their distribution as revealed by a study of the upper Amur Valley. Merzl. issl. no.3:83-90 '63. (MIRA 17:6)

CHERNYAGIN, B.M.

Design of temperature-compensated balance-hairspring systems.
Chas.mekh. no.1:5-49 '55. (MLRA 9:12)
(Clockmaking and watchmaking)

CHERNYAGIN, B.M.

Correction of chronometer time indications taking the integral value of secondary errors into consideration. Chas.mekh. no.1: 50-54 '55. (MLRA 9:12)

(Chronometer--Testing)

CHERNYAGIN, B.M.

123-1-1462-D

Translation from: Referativnyy Zhurnal, Mashinostroyeniye, 1957, Nr 1, p. 212 (USSR)

AUTHOR: Chernyagin, B. M.

TITLE: Temperature Compensation in Watches and Chronometers (Temperaturnaya kompensatsiya chasov i khronometrov)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences, presented to the Moscow Higher Technical School (Moskovsk. vyssh. tekhnich.uch-shche) Moscow, 1956.

ASSOCIATION: Moscow Higher Technical School (Moskovsk. vyssh. tekhnich. uch-shche)

Card 1/1

CHERNYAGIN, B.M.

[redacted]

Engineering method for designing balance-spiral spring systems for temperature compensation. Priborostroenie no.3:17-22 Mr '56. (MLRA 9:8)

(Clockmaking and watchmaking)

CHERNYAGIN, B.M.

[redacted]

Effect of centrifugal force on the functioning of chronometers having cut bimetal balances. Priborostroenie no.7:15-18 Jl '56. (MLRA 9:8)

(Chronometer)

CHERNYAGIN, B.M.

Design of continuous bimetallic balance wheels taking thermal compensation into consideration. Priborostroenie no.1:9-13 Ja '57.
(Clockmaking and watchmaking) (MLRA 10:4)

AUTHOR: Chernyagin, B. M., Candidate of ~~Technical Sciences~~ SOV/119-58-9-13/18

TITLE: Timing Relay of Universal Importance (Rele vremeni bytovogo naznacheniya)

PERIODICAL: Priborostroyeniye, 1958, Nr 9, pp. 27-29 (USSR)

ABSTRACT: The timing relays of the types Tempolux and Tempirex which are manufactured by the Swedish firm Zhake are described. There are 5 figures.

Card 1/1

TAGIROV, Salikh Mikhaylovich; CHERNYAGIN, B.M., kand.tekhn.nauk, retsenzent; ITKIN, I.M., inzh., red.; AKIMOVA, A.G., red. izd-va; CHERNOVA, Z.I., tekhn.red.

[Construction and assembling of watches] Konstruktsiia i tekhnologiia sborki mekhanicheskikh chasov. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 243 p. (MIRA 13:11)

(Clockmaking and watchmaking)

KURITSKIY, A.M.; CHERNYAGIN, B.M.; SHPOLYANSKIY, V.A.

Current state of the theory and methods of the design of watch and clock mechanisms. Priborostroenie no.5:5-8 My '61. (MIRA 14:5)

(Clocks and watches)

TARASOV, S.V.; CHERNYAGIN, B.M.

Improving and enlarging the nomenclature of clocks and watches for home and personal use. Priborostroenie no.5:8-11 My '61. (MIRA 14:5)

(Clocks and watches)

SHPOLYANSKIY, V.A.; CHERNYAGIN, B.M.

Transistor chronometers. Izm.tekh. no.1:25-28 Ja '63. (MIRA 16:2)

(Chronometer)

YUDIN, V.A., prof., doktor tekhn. nauk; DOBROGURSKIY, S.O., prof., retsenzent; IL'IN, V.B., inzh., red.; CHERNYAGIN, B.M., inzh., red.; TIKHONOV, A.Ya., tekhn. red.

[Mechanisms of instruments] Mekhanizmy priborov; spravochnik. Moskva, Mashgiz, 1952. 487 p. (MIRA 16:8)
(Mechanisms) (Instruments)

L 10148-63

ACCESSION NR: AP3000887 S/0179/63/000/002/0126/0130

AUTHOR: Bautin, N. N., Chernyagin, B. M. (Gor'kiy, Moscow) 44

TITLE: Theoretical and experimental investigation of the dependence of the dynamic characteristics of a ship chronometer on the postion of the spiral-spring hub clamp. of the balance.

SOURCE: AN SSSR. Izv. Otd. tekh. nauk. Mekhanika i mashinostroyeniye, no. 2, 1963, 126-130

TOPIC TAGS: clockwork, chronometer, balance spring, escape mechanism, escape wheel, escapement, impact, escapement pallet.

ABSTRACT: The paper adduces a theoretical calculation of the dynamic characteristics of a ship chronometer using a simplified dynamic model with two degrees of freedom. The results of calculations performed for two chronometers of differing design are compared with the experimental characteristics observed. Experimental confirmation is obtained for the theoretical conclusion that a change in the position of the spiral-spring hub clamp, that is, a change in the position of equilibrium of the balance, can

Card 1/~~1~~2

L 10148-63
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exert a substantial influence on the dynamic characteristics (a change from advance to retard and vice versa). The dynamic model employed in this study comprises the following simplifying assumptions: (a) Energy losses and energy transfers under impact are disregarded (energy transfer between the escape wheel and the balance occurs only when the two are kinematically coupled); (b) energy is lost by the balance wheel through solid friction only; (c) all component parts are assumed to be perfectly shaped, so that any kinematic peculiarities resulting from mechanical imperfections can be disregarded. The results of high-speed cinematography (at the rate of 4,000 frames/sec) for the purpose of a visual observation of the phenomena occurring between the escape wheel and the escape pallet are described. Such high-speed cinematography reveals that, at the moment when the escape wheel catches up with the escapement, a distinctly observable rebound of the escape wheel occurs, and the motion of the escape wheel and the escape in kinematic coupling begins actually after the second impact only, which is distinctly dead-beat. The losses of impact angle attributable to the rebound of the escape wheel may amount to as much as 4-5 degrees. This fact appears to be important in the selection of a correct idealization of the impulse in the model of the motion of a chronometer. An adequate idealization would appear to be one that comprises two impacts, namely, (1) an imperfectly elastic first impact, and (2) a nonelastic dead-beat impact followed by joint motion in kinematic coupling. There are 16 numbered equations.

Card 2/3 2

SHPOLYANSKIY, V.A.; KURITSKIY, A.M.; BAUTIN, N.N., doktor tekhn. nauk, prof., retsenzent; CHERNYAGIN, B.M., kand. tekhn. nauk, retsenzent; KUNAYEV, I.P., kand. tekhn. nauk, red.; BARANOVA, Z.S., inzh., red.izd-va; SOKOLOVA, T.F., tekhn. red.

[Release controllers of timing devices] Spuskovye reguliatory priborov vremeni. Moskva, Mashgiz, 1963. 463 p. (MIRA 17:3)

SHPOLYANSKIY, V.A.; CHERNYAGIN, B.M.; IVOBOTENKO, B.A., kand.
tekhn. nauk, retsenzent; BARANOVA, Z.S., inzh., red.

[Electrical timing devices] Elektricheskie pribory vremeni. Moskva, Mashinostroenie, 1964. 387 p.
(MIRA 17:11)

GEL'FENBEYN, L.S.; CHERNYAGINA, T.B.

Antibiotic therapy of suppurative perineal and gluteal wounds following surgery on the rectum. Khirurgiia 40 no.2:49-51 F '64. (MIRA 17:7)

1. Proktologicheskoye otdeleniye (zav. - prof. A.N. Ryzhikh) Gosudarstvennogo onkologicheskogo instituta imeni P.A. Gertsena na baze 67-y bol'nitsy (glavnyy vrach P.S. Petrushko), Moskva.

CHERNYAGINA, Z.A. (Kuybyshev (obl.) 28, kvart.2, d.52, kv.9); YAKOVLEV, A.Ya. (Kuybyshev (obl.) 28, kvart.2, d.52, kv.9)

Angiorrhapy. Ortop., travm. i protez. 24 no.8:69-70 Ag '63. (MIRA 17:1)

1. Iz kafedry gospital'noy khirurgii (zav. - prof. A.M. Aminev) Kuybyshevskogo meditsinskogo instituta.

CHERNYAGO, V.A.; YATSOZHINSKIY, Yu.D.

Errors in the diagnosis of tuberculomas and echinococcus of the lungs. Zdrav. Tadzh. 10 no.5:29-31 '63. (MIRA 17:2)

1. Iz kafedry tuberkuleza (zav. - dotsent Yu.D. Yatsozhinskiy) Tadzhikskogo meditsinskogo instituta i khirurgicheskogo otdeleniya Tadzhikskoy respublikanskoy klinicheskoy tuberkuleznoy bol'nitsy (zav. - V.Yu. Kraulis).

CHERNYAGOV, L.

Subject : USSR/Aeronautics AID P - 757

Card 1/1 Pub. 135 - 3/15

Authors : Chernyagov, L., Major and Koshchakov, Ye., Major

Title : The approach to the landing course

Periodical : Vest. vozd. flota, 11, 17-21, N 1954

Abstract : The author analyses errors committed by a jet aircraft in approaching the landing course in bad weather (restricted visibility). He considers various angles of approach and the resulting errors. Diagrams, tables, formulae.

Institution : None

Submitted : No date

CHERNYAK, A., kand. istoricheskikh nauk

Birth of the first Russian standard. Standartizatsiia 29 no.6:
56-57 Je '65. (MIRA 18:12)

CHERNYAK, A., starshiy inzhener; GAY, L., starshiy inzhener.

Mechanizing the production of knives and scissors. Prom.koop. no.5:
8-11 My '56. (Cutlery) (MIRA 9:9)

Chernyak, A.

CHERNYAK, A. (Moskva); VOLKOVA, V.; TUGARINOV, V. (g.Gus'-Khrustal'nyy).

For further improvement in documentation within the factory.
Bukhg.uchet 14 [i.e.16] no.9:49-50 '57. (MIRA 10:10)

1. Starshiy inzhener proyektno-konstruktorskogo byuro Vsesoyuznogo nauchno-issledovatel'skogo instituta stekla (for Chernyak). 2. Glavnyy bukhgalter steklozavoda imeni Dzerzhinskogo (for Volkova). 3. Nachal'nik mashinoschetnoy stantsii zavoda (for Tugarinov).
(Glass manufacture--Accounting)

CHERNYAK, A.

High-precision workers. NTO no.4:24-25 Ap '59.(MIRA 12:6)
(Moscow--Clockmaking and watchmaking)

EL'KIN, I., inzh.; MEYLIKHOV, M., inzh.; CHERNYAK, A., inzh.; YUDITSKIY, I., inzh.

Increasing the capacity of hermetically sealed refrigeration compressors. Khol.tekh. 37 no.3:18-21 My-Je '60. (MIRA 13:7)

1. Khar'kovskoye opytno-konstruktorskoye byuro Ukrtorogoborudovaniya. (Compressors)

CHERNYAK, A.

Pave the way for the initiative of the people of Akmolinsk.
Sov. profsoiuzy 17 no.1:30 Ja '61. (MIRA 14:1)

1. Chlen prezidiuma Akmolinskogo obkoma profsoyuza rabochikh i sluzhashchikh sel'skogo khozyaystva i zagotovok.
(Akmolinsk Province—Community centers)
(Akmolinsk Province—State farms)
(Trade unions)

CHERNYAK, A.; BESEDIN, I.; SAYBEL', V., traktorist

Put machinery in reliable hands. Sov. profsoiuzy 18 no.8:9-11
'62. (MIRA 15:4)

1. Predsedatel' TSelinogradskogo rayonnogo komiteta professional'nogo soyuza rabochikh i sluzhashchikh sel'skogo khozyaystva i zagotovok (for Chernyak). 2. Predsedatel' rabochego komiteta sovkhoza "Bozaygirskiy" (for Besedin).
(Virgin Territory--Agricultural machinery--Repairing)
(Virgin Territory--Trade unions)

CHERNYAK, A. A. Cand Med Sci -- (diss) "Prophylaxis and treatment of hemolytic diseases in newborn infants ~~babies~~." Minsk, 1958. 16 pp (Minsk State Med Inst), 150 copies (KL, 52-58, 108)

CHERNYAK, A.A.; RABTSEVICH, T.S.

Pathomorphological placental changes in Rh-incompatibility in mother and fetus [with summary in English]. Akush. i gin. 35 no.1:30-34 Ja-F '59. (MIRA 12:2)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. L.S. Persianinov) i patologicheskoy anatomii (zav. - prof. Yu.V. Gul'kevich) Minskogo meditsinskogo instituta.

(RH FACTOR,
iso-immun., placental pathol. (Rus))
(PREGNANCY, compl.
Rh-isoimmun., placental pathol. (Rus))
(PLACENTA, pathology,
in Rh-isoimmun. (Rus))

DOBYSHEV, A.M.; CHERNYAK, A.A.

The SKNB transplanting machine. Biul.tekh.-ekon.inform.
no.7:47-48 '60. (MIRA 13:7)
(Agricultural machinery)

CHERNYAK, A.A., kand.med.nauk; GALERSHTEYN, M.D.

Sarcoma of the small intestine. Zdrav. Bel. 6 no.12:58 D '60.
(MIRA 14:1)

1. Iz akusharsko-ginekologicheskoy kliniki (zaveduyushchiy - prof. I.M. Starovoytov) i kliniki gospital'noy khirurgii (zav. - dotsent I.M. Stel'mashonok) Minskogo meditsinskogo instituta.
(INTESTINES—TUMORS)

STEBLYANKO, F.I., inzh.; CHERNYAK, A.A., inzh.; DOBYSHEV, A.M., inzh.

Transplanting machines. Trakt. i sel'khozmash. 31 no. 5:30-31 My '61.
(MIRA 14:5)
(Planters (Agricultural machinery))

CHERNYAK, Agnessa Abramovna; KAMINSKIY, Ye.A., red.; LARIONOV, G.Ye., tekhn. red.

[How to read the schematics for industrial electrical systems] Kak chitat' skhemy obshchepromyshlennykh elektroustanovok. Moskva, Gosenergoizdat, 1963. 78 p. (Biblioteka elektromontera, no.106) (MIRA 17:2)

CHERNYAK, A.A., inzh.

Theoretical bases of the process of transplanting seedlings. Trakt. i sel'khozmash. no.4:34-35 Ap '65. (MIRA 18:5)

1. Gosudarstvennoye spetsial'noye konstruktorskoye byuro po sel'skokhozyaystvennym i vinogradnikovym mashinam.

S/078/60/005/010/004/021
B004/B067

AUTHORS: Stëpin, B. D., Chernyak, A. I.

TITLE: Investigation of the Process of Iridium Chlorination in the Production of Its Trichloride

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 10, pp. 2157-2161

TEXT: The authors of this paper wanted to test a method given by G. Brauer (Ref. 3). 99.84 - 99.94% refined iridium was chlorinated by means of ГОСТ 6718-53 (GOST 6718-53) chlorine at 400 - 650°C. The apparatus is schematically shown in Fig. 1. A ПРК-2 (PRK-2) mercury quartz lamp and three bactericide tubes of the type БУФ-15 (BUF-15) with a maximum light emission at 254 mμ and provided with a УФС-1 (UFS-1) light filter for absorbing the visible range of the spectrum, served as light source. Besides, the authors tried to activate chlorine by means of dark electric discharges of ozonizers. The results of the experiments are given in Tables 1 - 4 and Fig. 2. Single chlorination of iridium gave lower yields

Card 1/2

Investigation of the Process of Iridium
Chlorination in the Production of Its
Trichloride

S/078/60/005/010/004/021
B004/B067

(maximum: 91%). As is shown in Fig. 2, the reaction rate rapidly decreases due to the formation of a chloride layer which inhibits chlorine diffusion. Chlorine activation by means of dark electric discharges, admixture of sulfur, or ultraviolet irradiation were inefficient. An addition of CO, however, led to a rapid and complete chlorination (99%). For 1 g of Ir and 40 ml/min of Cl, 4.5 - 5.5 ml/min of CO were added. CO acts as catalyst also without irradiation. An excessive CO content (11 ml/min) reduces the yield of $IrCl_3$ owing to the formation of stable iridium carbonyls. There are 2 figures, 4 tables, and 3 references: 1 Soviet and 2 German.

✓

ASSOCIATION: Khimicheskiy zavod im. Voykova (Chemical Works imeni Voykov)

SUBMITTED: July 15, 1959

Card 2/2

BELOV, Konstantin Petrovich; CHERNYAK, A.L., red.; YERMAKOVA, Ye.A., tekhn.red.

[Magnetic transformations] Magnitnye prevrashcheniia. Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1959. 259 p. (MIRA 13:2)
(Magnetism)

UMANSKIY, Mark Moiseyevich; CHERNYAK, A.L., red.; AKHLAMOV, S.N., tekhn.red.

[Equipment for X-ray diffraction study] Apparatura rentgenostrukturnykh issledovanii. Moskva, Gos.izd-vo fiziko-matem. lit-ry, 1960. 346 p. (MIRA 13:12)
(X-ray crystallography)

CHERNYAK, A.L., inzh.; YAKOBSON, V.B., kand.tekhn.nauk

Low temperature hermetic compressors. Khol.tekh. 40 no.3:15-22 My-Je '63. (MIRA 16:9)

1. Khar'kovskoye opytno-konstruktorskoye byuro (for Chernyak). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti (for Yakobson).

(Refrigeration and refrigerating machinery)

RUMYANTSEV, Yuriy Viktorovich; KHVOROSTUKHINA, Nina Alekseevna;
NADOL'SKIY, A.P., kand. tekhn. nauk, otv. red.; CHERNYAK,
A.L., red.

[Physicochemical principles of the pyrometallurgy of indium]
Fiziko-khimicheskie osnovy pirometallurgii indiia. Moskva,
Nauka, 1965. 130 p. (MIRA 18:4)

SHATALOVA, Irina Georgiyevna, kand. tekhn. nauk; GORBUNOV, Nikolay Stepanovich, prof., doktor khim. nauk; LIKHTMAN, Vladimir Iosifovich, prof. doktor fiz.-matem. nauk; REBINDER, P.A., akademik, otv. red.; CHERNYAK, A.L., red.

[Physicochemical principles of the vibrational compression of powdered materials] Fiziko-khimicheskie osnovy vibratsionnogo uplotneniia poroshkovykh materialov. Moskva, Nauka, 1965. 162 p. (MIRA 18:3)

1. Rukovoditel' Instituta fizicheskoy khimii AN SSSR (for Rebinder).

CHERNYAK, A.M.

Calculation of continuous plates reinforced by thin-walled ribs. Trudy TISI 11:108-119 '64.

Calculation of continuous plates on elastic supports. Ibid.: 120-124 (MIRA 19:1)

BORZAK, N.M.; CHERNYAK, A.M.

Gauge for measuring tapered threads. Izm.tekh.no.3:79-80 My-Je '56.
(Screw-threads--Measurement) (MIRA 9:9)

CHERNYAK, A.M.; BORZAK, N.M.

Simplified method for rating measuring instruments. Izm. tekh. no.3:
85-86 My-Je '57. (MIRA 10:8)

1. Khar'kovskiy traktornyy zavod.
(Measuring instruments)

CHERNYAK, A.M.; BORZAK, N.M.

Instrument for checking splined rings by the circular pitch.
Izm. tekh. no.4:36-37 Jl-Ag '57. (MLRA 10:8)
(Measuring instruments)

9(6) SOV/115-59-2-7/38

AUTHOR: Borzak, N.M., Chernyak, A.M.

TITLE: Apparatus for Complex Inspection of Engine Camshafts (Pribor dlya kompleksnogo kontrolya raspredelitel'nykh valov dvigateley)

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 2, pp 15-16 (USSR)

ABSTRACT: An apparatus has been developed and put into service that permits a complex check, under factory conditions, during the production of camshafts for tractor engines. The check is made by comparing the cam profile of the shaft being produced with the corresponding model cam that is permanently attached to the apparatus. The checking time does not exceed 3 minutes. After this system was introduced, factory spot-checks were made of every 500th unit produced, instead of every 50th. In the workshop, 2-3 camshafts per shift were examined, this reveals any defects in the production process.

Card 1/2

SOV/115-59-2-7/38

Apparatus for Complex Inspection of Engine Camshafts

The individual parts of this apparatus are carefully described. There is 1 diagrammatic photograph.

Card 2/2

CHERNYAK, A.P.

PETROV, Mikhail Kliment'yevich; CHERNYAK, A.P., redaktor; IVANOV, K.A., redaktor izdatel'stva; LAVRENOVA, N.B., tekhnicheskiy redaktor

[Development and improvement of passenger transportation by sea] Razvitie i uluchshenie perevozok passazhirov morem. Moskva, Izd-vo "Morskoi transport," 1957. 68 p. (MLRA 10:9)
(Merchant marine--Passenger traffic)

CHERNYAK, A.D

Mechanization of mooring operations in sea harbors. Mor.flot
20 no.1:14-17 Ja '60. (MIRA 13:5)

1. Rukovoditel' gruppy mekhanizatsii Lenmorproyekta.
(Harbors--Equipment and supplies)

L 03783-67 EWT(1)/T-2 WW/GD

ACC NR: AT6028560 SOURCE CODE: UR/0000/66/000/000/0176/0203

28
B+1

AUTHOR: Chernyak, A. P.

ORG: none

TITLE: Dependence of the coefficient μ of a centrifugal pump impeller on its geometric parameters and operating regime

SOURCE: Lopatochnyye mashiny i struynyye apparaty (Vane machinery and jet apparatus); sbornik statey, no. 1. Moscow, Izd-vo Mashinostroyeniye, 1966, 176-203

TOPIC TAGS: centrifugal pump, ~~centrifugal~~ pump, ~~impeller,~~ ~~centrifugal pump design~~
mechanical engineering

ABSTRACT: The coefficient μ, defined as the ratio of the absolute angular velocity at the pump impeller exit to the same value at an infinite number of impeller blades, is considered to be one of the most important design parameters for centrifugal pump impellers. The object of this paper is to obtain mathematical expressions for the relationship between μ and the flow separation angle δ and the impeller geometric parameters, e.g., number of blades, relative inlet diameter, blade exit angle, and the radial blade height variation. The values of μ calculated from the derived formulas are in good agreement with experimental data and therefore are recommended for design calculations of centrifugal pump impellers. Orig. art. has: 11 figures and 15 formulas. [AS]

SUB CODE: 13/ SUBM DATE: 06Apr66/ ORIG REF: 003/ OTH REF: 004/ ATD PRESS: 5064

Card 1/1 UDC: 629.13.03:621.454:621.515

CHERNYAK, A.S.

AUTHOR: Chernyak, A. S. 136-3-11/25

TITLE: Production of Phosphate Fertilizer from Hydrometallurgical Wastes. (Polucheniye fosfornogo udobreniya iz otkhodov gidrometallurgii).

PERIODICAL: Tsvetnyye Metally, 1957, No.3, pp.58-59 (USSR)

ABSTRACT: The results of a laboratory-scale investigation and of confirmatory experiments on a semi-works-scale are presented which showed that phosphate fertilizer could be obtained from waste solution of the following composition (g/litre):
19-40 P_2O_5, 10-15 Fe^{2+}, 1.5-5.8 Fe^{3+}, 1.3-2.1 CaO, 1.7-4.2 Al_2O_3, 4.0-18.8 SO_3, 0.4-0.7 MnO, 0.4-0.5 MgO and 0.015-0.160 SiO_2.
Precipitation with milk of lime (containing 100 g of CaO/litre) at 40 C and with intensive mixing gave a precipitate with 20% soluble P_2O_5, i.e. similar to normal superphosphate.
There is one table.

1/1

ASSOCIATION: Irgiredmet Institute.

AVAILABLE: Library of Congress

CHERNYAK, A.S.

Vanadium ore for the production of steel and cast iron alloys in Eastern Siberia. Izv. Sib. otd. AN SSSR no.7:120-121 '59.
(MIRA 12:12)

1. Irkutskiy gosudarstvennyy institut redkikh metallov.
(Siberia, Eastern--Vanadium ores)

18.5000

75654
SOV/80-32-10-3/51

AUTHOR: Chernyak, A. S.

TITLE: Selective Chemical Separation of Scheelite and Calcite in Ores, With Reagent Regeneration

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 10, pp 2148-2153 (USSR)

ABSTRACT: In this Communication II on the chemical separation of minerals difficult to separate by mechanical dressing, two leaching processes using H_2SO_3 and NH_4Cl are suggested for the above separation. H_2SO_3 leaching: The chemistry of the process was described earlier (Chernyak, A. S., this journal, 30, 7, 844 (1957)). Carbonates are quantitatively leached in 20 to 60 min, at room temperature, and 5 to 100 g H_2SO_3/liter. Treatment of an industrial flotation product containing 19.56% WO_3 and 39.76% $CaCO_3$ with 110% of stoichiometric requirement of H_2SO_3 (45 g/liter)

Card 1/5

Selective Chemical Separation of Scheelite and Calcite in Ores, With Reagent Regeneration

75654
SOV/80-32-10-3/51

yields a concentrate containing 75.9% WO_3 and 0.76% carbonate CaO; 3/4 of the solid are dissolved. In addition to Ca and Mg, the filtrate also contained a few tenths % Mn, and traces of Fe and Sn. Recovery of 1/2 of the SO_2 consumed places the process economically on par with the HCI leaching process. Figures 2 and 3 show % $CaCO_3$ leached vs % of stoichiometric H_2SO_3 requirement, and % S recovered vs temperature. In NH_4Cl leaching, the reaction (1)

first proceeds forward and then, after separation of the $CaCl_2$ solution from the residue, passage of NH_3 and CO_2 through the solution drives (1) to the left. A stoichiometric $NH_4Cl/CaCO_3$ ratio is used. Treatment of the above-cited flotation product produced a concentrate containing 76.1% WO_3 and 1.04% carbonate

Card 2/5

CaO; 3/4 of the solid were dissolved. The Ca-containing solution contained only a few hundredths of 1% Sr and Mg. The two new leaching processes suggested are superior to HCl leaching, which consumes 300 to 600 kg of unrecoverable HCl per ton of dressed concentrate, and entails the loss of 5 to 10% W; the processes are of interest both for separation and for ore analysis. Shubina, V. V. (Irgiredmet); Grebennikova, O. T., and Kalayanova, N. L., took part in this experiment. There are 5 figures; and 5 Soviet references.

5.3630

77507
SOV/80-33-1-16/49

AUTHORS: Chernyak, A. S., Navtanovich, M. L.

TITLE: Concerning the Extraction of Metals With Acid Alkylphosphates

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 1, pp 85-89 (USSR)

ABSTRACT: This is a study of the composition of acid alkylphosphates used in the extraction of metals from aqueous media, and of the chemistry of this process. Acid alkylphosphates are usually obtained in reaction of alcohols with P_2O_5; the reaction yields various phosphoric acid esters, depending on the ratio of the reagents and the conditions of the reaction:

Card 1/4

Concerning the Extraction of Metals With Acid Alkylphosphates

77507
SOV/80-33-1-16/49

$$2ROH + P_2O_5 \rightarrow R_2H_2P_2O_7$$

$$2ROH + P_2O_5 + H_2O \rightarrow 2RH_2PO_4$$

$$3ROH + P_2O_5 \rightarrow RH_2PO_4 + R_2HPO_4$$

$$6ROH + P_2O_5 \rightarrow 2R_3PO_4 + 3H_2O$$

N-butyl and isomyl alcohols were used in the study. The acid and neutral esters obtained were extracted with a fourfold excess of water and then with 5% sodium carbonate solution in amount equal to that of the organic solution. The initial organic solution, the aqueous extract, and the organic solution after both extractions were titrated with NaOH. Phosphorus was determined quantitatively by oxidation with sulfuric and nitric acid mixture and using the usual molybdate method. It was established that the reaction of

Card 2/4

alcohols with P_2O_5 gave no neutral esters but only acid esters in the form of a mixture of mono- and diesters. The yield of monoesters increased, and that of diesters decreased with the increase of the molar ratio of alcohol to anhydride (from 2 to 6). The molar ratio 2:1 gave predominantly diesters (67.7 to 90.5%); chiefly, dialkylpyrophosphates. The metal extraction capacity of the alkylphosphates was investigated on solutions with various cations (Fe^{3+}, Ti^{IV}, Zn^{IV}, Cb^{V}) and anions (Cl^-, NO_3^-, SO_4^{2-}, PO_4^{3-}), and the content of extracted cations and anions in the alkylphosphates was determined by quantitative analysis and with the help of radioactive isotopes. Apparatus B-2 and end-window counter MST-17 were used in the study. In the case of $Fe_2(SO_4)_3$ solution, alkyl phosphate was taken in 1:5 volumetric ratio and Fe^{3+} extracted in practically identical amounts (about 52%) from acid as well as from nearly neutral

Concerning the Extraction of Metals With Acid Alkylphosphates

77507
SOV/80-33-1-16/49

solutions. The degree of extraction of SO_4^{2-} was considerably higher from acid than from neutral solutions. Most of the sulfate ion, however, was eliminated on washing with water, whereas the iron cation remained insoluble. Accordingly, the re-extraction from the organic phase gave 5 to 13 times more iron than sulfate ions. These and other experimental data indicate that the extraction of metals with acid alkylphosphates has an ionic character. It can also be assumed that acid alkylphosphates can be used for metal extraction from strongly acid as well as from weakly acid solutions. There are 3 tables; and 8 references, 1 U.S., 1 U.K., 1 German, 5 Soviet. The U.S. and U.K. references are: R. E. Treybal, Ind. Eng. Chem. 49, 514 (1957); D. F. Peppard, et al., J. Inorg. a. Nucl. Chem., 4, 334 (1957).

ASSOCIATION: Irkutsk State Scientific Research Institute for Rare Metals (Irkutskiy gosudarstvenny nauchno-issledovatel'skiy institut redkikh metallov)

SUBMITTED: May 20, 1959

Card 4/4

S/080/61/034/004/010/012
A057/A129

AUTHORS: Chernyak, A. S., Navtanovich, M. L.

TITLE: Extraction of metals by alkyl phosphoric acids synthesized from industrial alcohol mixtures

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 4, 1961, 916 - 919

TEXT: An economical method for the manufacture of alkyl phosphate extractants by direct synthesis from industrial mixtures of alcohols and hydrocarbons obtained in hydrogenation of oxidized paraffins over a zinc-chromium catalyst (V. V. Veselov et al., Ref. 3: Novosti neftyanoy tekhniki (News of petroleum technology), Neftepererabotka, 1, 1960) is described. Technological investigations demonstrated that the alkyl phosphoric acids obtained from the alcohol mixtures have the same extractability as alkyl phosphoric acids synthesized from single aliphatic alcohols. Thus the cumbersome and expensive separation of alcohols from hydrocarbons was avoided and a selective extractant for rare metals was obtained. The initial mixture for the synthesis of alkyl phosphates contains usually 50 - 60 % alcohols, 85 % of which are iso-alcohols. The main part are C_5 - C_{22}

Card 1/6

alcohols, i.e., 12 % C_5 - C_9, 47 % C_{10} - C_{15} and 41 % C_{16} - C_{22} alcohols. The synthesis was carried out using a molar ratio of alcohol to phosphoric anhydride of 2 : 1, i.e., in condition favorable for the formation of dialkylpyrophosphates according to prior investigation of the present authors (Ref. 4: ZhPKh, 33, 85, 1960). The obtained extractant contains usually 40 - 50 % alkyl phosphoric acids, some hydrocarbons with small amounts of fatty acids, ethers, esters, oxy acids, and carbonyl compounds. Differently from single dialkylpyrophosphates the extractant obtained from the mixture of industrial alcohols maintains the extractability for several weeks. It was not determined which of the compounds present in the extractant causes this stabilization of extractability, but the solution of this question could be of interest for the use of correspondent admixtures to the single alkylpyrophosphates. Laboratory tests on the extractability of the obtained extractant were carried out with sulfuric, hydrochloric, nitric, phosphoric and oxalic acid solutions containing ions of alkali and alkali earth metals, Al, Fe (III and II), Sc, Y, lanthanides, Ti, Hf, Zr, Sn, Nb, W and others. It was observed that the extractant has an extraction selectivity for multi-valent metals (3 - 6 valent). Extraction is possible from concentrated, as well as from weakly acidic, almost neutral, mineral acid solutions. The extraction is effected by the ratio of volumes of the solution and extractant. Thus increase in the ratio helps to avoid emulsifying, and the present experiments were carried out with ratios of solution: extractant = 5 : 1 and 10 : 1. It was observed that the use of diluted solutions (in kerosene) of the extractant effects decrease in expense of alkylphosphates almost not decreasing the extraction of metals. The most convenient concentration is 5 - 10 % alkyl phosphoric acids in the solution of the extractant. The extraction depends considerably on the concentration of the metal in the solution, i.e., the higher the concentration the better is extraction (Table 1). Extractability of alkyl phosphoric acids obtained from the total mixture of industrial alcohols and from single fractions is compared in Figure 2. It can be seen that an improvement can be effected by separating single fractions from the initial mixture. In Table 2 properties of the obtained extractant with those obtained from single alcohols were compared. There are 2 figures, 2 tables and 4 Soviet references.

SUBMITTED: June 13, 1960.

S/137/62/000/006/046/163
A006/A101

AUTHOR: Chernyak, A. S.

TITLE: Chemical concentration of rare-metal carbonate ores

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 17, abstract 6G128 ("Sb. nauchn. tr. Irkutskiy n.-i. in-t redk. met.", 1961, no. 9, 127 - 139)

TEXT: Data are presented on investigations of chemical concentration applied to the two most important types of carbonate ores, i. e. skarn and carbonacite ores (on the example of W and Nb ores). There are 8 references.

G. Svodtseva

[Abstracter's note: Complete translation]

Card 1/1

S/137/62/000/006/060/163
A052/A101

AUTHORS: Navtanovich, M. L., Chernyak, A. S.

TITLE: Liquid extraction of metals by means of acid alkyl phosphate

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 19, abstract 6G148 ("Sb. nauchn. tr. Irkutskiy n.-i. in-t redk. met.", no. 9, 1961, 140 - 151)

TEXT: A report on some results of the studies carried out on the extraction of rare elements by means of acid alkylphosphates as well as of the studies on the chemical nature of extraction and on investigating cheap and effective extractors. There are 13 references.

G. Svodtseva

[Abstracter's note: Complete translation]

Card 1/1

S/137/62/000/008/001/065
A006/A101

AUTHORS: Chernyak, A. S., Navtanovich, M. L.

TITLE: The part of organic reagents in hydrometallurgy

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 8, 1962, 12, abstract 8A62 ("Nauchn. tr. Irkutskiy n.-i. in-t redk. met.", 1961, no. 10, 316 - 342)

TEXT: Basic methods of using organic reagents in hydrometallurgy are analyzed. Organic reagents can be employed as solvents for extracting metals from solid products (lixiviation) and from aqueous solutions (liquid extraction); the latter process is used more frequently. The following extracting agents are used: hydrocarbons and chlorine derivatives, oxygen-containing organic solvents which do not contain saltforming groups, plain esters, alcohols, complex carbonic acid esters, phosphorus- and nitrogen-containing extracting agents. Individual examples are quoted of separating-out metals by lixiviation and extraction, and the basic difficulties of the process are mentioned. The other field of employing organic reagents is the precipitation process. The advantages of organic preci-

Card 1/2

The part of organic reagents in hydrometallurgy

S/137/62/000/008/001/065
A006/A101

pitating agents are given, individual examples are quoted of using same; the possibility is indicated of using organic reagents as precipitating agents. The next field of using organic reagents are ion-exchange processes used for extracting metals from solutions with poor metal content, for refining valuable metal solutions from impurities and for the selective separation of valuable metals. Advantages and individual examples are mentioned of using ion-exchange processes. Organic reagents are employed as reducing agents to transfer the metal extracted into lower valences, and as coagulating agents. In the latter case organic poly-electrolytes are used. Other fields of using organic reagents are also mentioned; such as bacterial processes for performing oxidizing-reducing reactions with the aid of bacteria, electrolytic processes, in studying the chemism of hydrometallurgical processes. There are 106 references.

L. Povedskaya

[Abstracter's note: Complete translation]

Card 2/2

S/137/62/000/006/061/163
A052/A101

AUTHOR: Chernyak, A. S.

TITLE: The characteristics of the neutralization process of alkali sulfides

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 19, abstract 6G149 ("Sb. nauchn. tr. Irkutskiy n.-i. in-t redk. met.", no. 9, 1961, 160 - 164)

TEXT: The properties were studied on the precipitates forming in the neutralization process of sulfoalkali solutions used for the extraction of rare metals. The precipitates consist mainly of rhombic S and Na_2SO_4. A method of concentration of rare metals absorbed by the precipitates is worked out.

A. Tseydler

[Abstracter's note: Complete translation]

Card 1/1

S/081/62/000/018/021/059
B177/B186

AUTHORS: Navtanovich, M. L., Chernyak, A. S.

TITLE: Liquid extraction of metals by acid alkyl phosphates

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 18, 1962, 331, abstract 18K6 (Sb. nauchn. tr. Irkutskiy n-i. in-t redk. met. no. 9, 1961, 140 - 151)

TEXT: The possibility of extracting Nb, Zr, Ti and Fe^{3+} from aqueous solutions of their salts in H_2SO_4, HCl (acid), HNO_3, H_3PO_4 or $H_2C_2O_4$ by using solutions of acid alkyl phosphates in hydrocarbons was studied. Acid alkyl phosphates were obtained from an industrial mixture of higher alkyl alcohols with hydrocarbons by the interaction of this mixture with P_2O_5 (molar ratio of alcohol to P_2O_5 = 2 :1). The initial mixture contained 50 - 60% aliphatic alcohols, including ~85% isostructural alcohols. The alcohol fraction was composed of: 12% alcohols with 5-9, 47% alcohols with 10-15 and 41% alcohols with 16 - 22 atoms of C per molecule. The reaction products

Card 1/2

S/081/62/000/018/021/059
B177/B186

Liquid extraction of metals ...

principally contained a mixture of acid dialkyl pyrophosphates. The effects of the ratio between volumes of the phases, duration of their contact, and concentration of the initial metals and extracting agent, on the quantity of metal extracted was determined. About 84% of the metals was extracted in a single run. The composition of the acid alkyl phosphates and the mechanism of their interaction with the metals were established. [Abstracter's note: Complete translation.]

✓

Card 2/2

S/080/62/035/004/003/022
D204/D301

AUTHORS: Navtanovich, M. L. and Chernyak, A. S.

TITLE: Characteristics of iodate precipitation of Th and elements of the Ti subgroup from solutions containing scandium

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 4, 1962, 730-735

TEXT: The authors studied the separation of Th, Zr, Ti and Hf from Sc by selective precipitation of the impurities as iodates, as the process has not as yet been studied in detail. The starting material consisted of Sc oxide to which various amounts of the other metals were added. Th, Zr, Ti and Hf were precipitated with 15% KIO_3 in HNO_3 from acid nitrate solutions. The precipitates were then washed with 1% KIO_3 while Sc was precipitated from the filtrate with NH_4OH, dissolved in HCl, reprecipitated with oxalic acid and ignited to the oxide. HIO_3 and NH_4IO_3 could be used in place of

Card 1/ 3

S/080/62/035/004/003/022
D204/D301

Characteristics of iodate ...

KIO_3. All materials were analyzed chemically and spectroscopically. Nature of the precipitates is briefly described. It was found that at higher temperatures (~100°C) the yields of iodates were lower, but the precipitates contained less Sc and were easier to filter. With increased acidity the coprecipitation of Sc decreased, but the removal of Th and Zr could be less complete. For practical purposes a solution containing $\ngtr 6$ g.eqts. of HNO_3/l with $\geqslant 0.1$ g of Th, Zr/l is recommended. The optimum amount of KIO_3 depended on the Sc: impurities ratio, increasing from 100% (stoichiometric) at 10% impurities, to 900 - 1250% at 1% impurities. Larger excesses of KIO_3 enhanced coprecipitation of Sc with the iodates, but this could be recovered. The process gave Sc oxide containing $<0.10\%$ Th and $<0.05\%$ Zr, Hf, Th, and is thought suitable to industrial application. Purification of the lanthanons by an analogous method is thought possible. There are 3 figures, 4 tables and 20 references: 9 Soviet-bloc and 11 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: G. E. Lundel and J.I.

Card 2/3

Characteristics of iodate ... S/080/62/035/004/003/022
D204/D301

Hoffmann, Outlines of Methods of Chemical Analysis. Wiley, N. Y., 118, (1948); D. F. Peppard, G. M. Mason and J. L. Maier, J. Inorg. a. Nucl. Chem., 3, 215, (1956); V. K. Iya, C. r., 236, 608, (1953); R. C. Vickery, J. Chem. Soc., London, 245, (1955).

SUBMITTED: November 3, 1960

Card 3/3

CHERNYAK, A.S.; ESMONT, Ye.M.; SHEMETOVA, V.G.

Chemical fertilizers from phosphorites of the Lake Baikal region.
Izv.Sib.otd.AN SSSR no.1:101-104 '62. (MIRA 15:3)

1. Irkutskiy gosudarstvennyy nauchno-issledovatel'skiy institut redkikh metallov.
(Baikal Lake region—Phosphorites)
(Fertilizers and manures)

NAVTANOVICH, M.L.; CHERNYAK, A.S.

Particular features of the iodate precipitation of thorium and titanium subgroup elements from scandium-containing solutions. Zhur.prikl.khim. 35 no.4:730-735 Ap '62. (MIRA 15:4)
(Rare earth metals) (Iodates) (Precipitation (Chemistry))

CHERNYAK, A.S., inzh.

Emergency operation of the electirc power equipment of tank vessels.
Sudostroenie 28 no.11:42-43 N '62. (MIRA 15:12)
(Tank vessels) (Electricity on ships)

S/279/63/000/001/004/023
E075/E452

AUTHORS: Batsuyev, A.A., Chernyak, A.S. (Irkutsk)

TITLE: Coefficients of separation of germanium and gallium during distillation of their chlorides

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i gornoye delo. no.1, 1963, 76-79

TEXT: In view of the lack of literature data on quantitative evaluation of the possible degree of separation of the above metals in the form of chlorides, the authors carried out approximate theoretical calculations and necessary experiments for the determination of their relative volatility (coefficients of separation). The experimental work was done with germanium-gallium concentrates obtained from gasification products of semicoke. The concentrations of germanium and gallium in the initial solution and in the distillate were determined colorimetrically. The mean values of coefficients of relative volatility of germanium and gallium chlorides for germanium-gallium products containing 8.1 to 28.26% of GeO_2 and 1.4 to 8.5% Ga_2O_3 at temperatures 88, 100 and 110°C lie within limits

Card 1/2

Coefficients of separation ...

S/279/63/000/001/004/023
E075/E452

$n \cdot (10^2$ to $10^3)$ where $n = 1$ to 10. Since some factors which could affect the separation of germanium and gallium chlorides were not taken into consideration and the compounds used were impure, the results obtained cannot be highly accurate but should be useful for practical purposes. There is 1 table.

SUBMITTED: January 19, 1962

Card 2/2

GRISHINA, O.N.; NAFTANOVICH, M.L.; CHERNYAK, A.S.; SABIROVA, R.Z.;
FILIPPOVA, A.P.

Synthesis of dialkyl esters of alkylphosphinic acids and testing of their extractive properties. Trudy Kom.anal.khim.14:312-322 '63. (MIRA 16:11)

CHERNYAK, A.S.; SHEMET, V.V.

Physicochemical investigation of aqueous solutions of sulfuric and phosphoric acids. Zhur.neorg.khim. 8 no.3:738-741 Mr '63. (MIRA 16:4)
(Sulfuric acid) (Phosphoric acid)

L 42980-65 EWT(m)/EWG(m)/EWP(t)/EWP(b) IJP(c) RWH/JD/RM
ACCESSION NR: AP5009427 S/0289/64/000/003/0085/0090

AUTHOR: Chernyak, A.S.; Esmont, Ye. M

TITLE: **Adsorption of germanium from weakly alkaline solutions**

SOURCE: AN SSSR. Sibirskoye otdeleniye. Izvestiya. Seriaya khimicheskikh nauk, no. 3, 1964, 85-90

TOPIC TAGS: germanium adsorption, germanium refining, anion exchange resin

ABSTRACT: The article reports the results of laboratory and large-scale investigations into the recovery of germanium by anion-exchangers from waters containing 100 to 500 mg/m^3, and presents data on the control of the adsorption process by means of the radioisotope Ge^{71}. The weakly basic anion exchangers EDE-10p and AN-2f were used in the recovery, both static and dynamic conditions being studied. In the latter case, most complete recovery was achieved at a flow rate of water of 1 to 2 ml/min/cm^2 through the exchanger. Desorption was performed under dynamic conditions with sulfuric acid and sodium hydroxide solutions; the latter gave better results. The recovery of germanium was 70.4%, but this relatively low yield was due to the low concentration of germanium in the water. A reduction of NaOH concentration in the eluate to 5% will

Card 1/2

L 42980-66
ACCESSION NR: AP5009427

eliminate a partial destruction of the anion exchanger by the alkali. Orig. art. has: 4 figures, 3 tables and 1 flow-chart.

ASSOCIATION: IRGIREDMET, Irkutsk

SUBMITTED: 25May63 ENCL: 00 SUB CODE: IC

NO REF SOV: 002 OTHER: 000

Card 2/2

CHERNYAK, A.S.; ESMONT, Ye.M.

Chemical selection of columbite pyrochlore and apatite in the concentration of rare-earth sands. Zhur. prikl. khim. 38 no.1: 193-194 Ja '65. (MIRA 18:3)

L 26942-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JG

ACCESSION NR: AP5005567 S/0080/65/038/002/0345/0348

AUTHOR: Navtanovich, M. L.; Chernyak, A. S.; Sutyrin, Yu. Ye. 4

TITLE: Selective extraction of scandium with alkylphosphoric acids 11

SOURCE: Zhurnal prikladnoy khimii, v. 38, 27 no. 2, 1965, 345-348 B

TOPIC TAGS: scandium, scandium extraction, alkylphosphoric acid, alkyl phosphate, monoalkyl phosphate, dialkyl phosphate, extraction selectivity, rare metal, rare metal extraction

ABSTRACT: A method for obtaining relatively pure (approx 99%) scandium fluoride or scandium oxide from ore or slag leaching solutions by extraction with mono- or dialkyl phosphates is described. After the precipitation of scandium oxalate, mother liquors, which contain some scandium in solution, can also be treated in the same way for recovery of all scandium. Scandium content in the raw materials used in the study, i. e., residues after the decomposition of wolframite concentrates or tin melting slags, ranged from 0.05 to 0.6%; other metals, which occur together with scandium, were present in comparable quantities. The extracting agent was either a 0.85 m solution of n-octyl phosphate or EIR-2, which is a mixture of alkyl phosphates prepared from commercial mixtures of alcohols. After extraction the

Card 1/2

L 26942-65

ACCESSION NR: AP5005567

organic phase was washed with dilute HCl or H_2SO_4 to remove the major part of the other metals. The reextraction of scandium was effected by using a calculated amount of concentrated hydrofluoric acid; scandium fluoride was precipitated in the aqueous phase as a white sediment; an excess of HF dissolves the precipitate ScF_3. The scandium fluoride obtained can be either converted to Sc_2O_3 or used as a commercial product for preparation of metallic scandium; a purification of the fluoride by removal of Th(as iodate) and extraction of iron (according to Rote) is suggested. Alkyl phosphates have good selectivity in the extraction of scandium and the separation of it from other metals. Orig. art. has: 3 tables and 1 formula. [BN]

ASSOCIATION: Irkutskiy gosudarstvennyy nauchno-issledovatel'skiy institut redkikh metallov (Irkutsk State Scientific Research Institute of Rare Metals)

SUBMITTED: 29Nov62 ENCL: 00 SUB CODE: IC, GC

NO REF SOV: 003 OTHER: 008 ATD PRESS: 3189

Cord 2/2

CHERNYAK, Abram Samuilovich; IVANOVSKIY, M.D., prof., retsenzent;
ZVEREV, L.V., kand. tekhn. nauk, otv. red.

[Chemical dressing of ores] Khimicheskoe obogashchenie rud.
Moskva, Nedra, 1965. 201 p. (MIRA 18:9)

SHCHEPILOV, N.[illegible]; CHERNYAK, A.S.

Introducing ultrasonic cleaning of glass tubings. Biul. tekh.-ekon. inform. Gos. nauch.-issl. inst. nauch. i tekh. inform 18 no.7:15-17 Jl '65. (MIRA 18:9)

L 15301-66 EWT(m)/EWP(t)/EWP(b) IJP(c) DS/JD/JG

ACC NR: AP6002813 SOURCE CODE: UR/0078/66/011/001/0184/0190

AUTHORS: Navtanovich, M. L.; Chernyak, A. S.; Shemet, V. V.

27

B

ORG: none

TITLE: Extraction of metals from aqueous solutions of hydrohalic acids by means of dialkylalkylphosphinates

SOURCE: Zhurnal neorganicheskoy khimii, v. 11, no. 1, 1966, 184-190

TOPIC TAGS: rare earth element, solvent extraction, scandium, iron

ABSTRACT: Investigation of extracting iron 27 and rare earth metals 55,27 from HCl and of tantalum and niobium from HF using dialkylalkylphosphinates (DAAPh) are reported, and new data on chemistry of DAAPh extraction of scandium are presented. The latter subject was studied by the authors and reported earlier (Nauchn. tr. Irgiredmeta, 1963, vyp. 11, str. 252). A new concept of the "relative effectiveness of extractants" ($RE_e^c = D_{e2}/D_{e1}$, where c = ratio of initial concentrations of solvent and metal, D_{e2} = distribution coefficient of the investigated solvent, D_{e1} = distribution coefficient of known solvent) was formulated for evaluating new extractants. It was established that the extracting ability of DAAPh with alkyl radicals from C_3H_7 to $C_{12}H_{25}$ is directly related to the electron-donating properties of phosphoryl oxygen.

Card 1/2 UDC: 541.183.3

L 15301-66

ACC NR: AP6002813

These solvents were found much more effective than trialkylphosphates in extractions from HF, RE_e^1 for Sc and Fe^{3+} being 2.2 and 1.5, respectively, for rare earth elements RE_e^{10} is $\sim$ 3.5, for Nb--1.5, for Ta $\sim$ 1.4--2.4. Orig. art. has: 5 tables, 5 figures, and 4 equations.

SUB CODE: 07/ SUBM DATE: 02Apr65/ ORIG REF: 007/ OTH REF: 003

Card 2/2

CHERNYAK, A.S.; MINEYEV, G.G.

Chemical selection of pyrochlore and oxidized iron minerals in the concentration of rare metal ores. Zhur.prikl.khim. 38 no.9:1910-1914 S '65.

(MIRA 18:11)

L 29825-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AR6009953 SOURCE CODE: UR/0137/65/000/012/G026/G026

23
B

AUTHOR: Navtanovich, M. L.; Chernyak, A. S.

TITLE: Certain problems in scandium technology

SOURCE: Ref. zh. Metallurgiya, Abs. 12G186

REF SOURCE: Nauchn. tr. Irkutskiy n.-i. in-t redk. met., vyp. 12, 1965, 307-314

TOPIC TAGS: scandium, chemical separation, solvent extraction, scandium separation, metal extracting

ABSTRACT: Difficult problems in technology of Sc extraction from Sn products are caused by the complexity of the original raw material and by the proximity of the chemical properties of Sc and impurities. Investigations have made it possible to develop effective methods for separating Sc from Th, Zr, Hf, and Ti (by the iodide method) and from Ca and Mg (by leaching NH_4Cl solution), as well as to create the selective method of Sc separation from different types of raw materials, (using aqueous solutions of alkyl-phosphorus acids in the Sc-extracting acid). Extraction by these acids sharply increases the overall separation of Sc. Investigations for developing methods for obtaining 99.99% Sc_2O_3 are being confirmed. G. Svodtseva. [NT] [Translation of abstract.]

SUB CODE: 11, 07/ SUBM DATE: none

Card 1/1 UDC: 669.793.09

L 43778-66 EWT(d)/EWT(m)/EWP(c)/EWP(v)/EWP(k)/EWP(h)/EWP(t)/ETI/EWP(l)

ACC NR: AR6022161 LJP(c) JD/JG SOURCE CODE: UR/0137/66/000/003/G019/G019

AUTHOR: Chernyak, A. S.; Butsuyev, A. A.

48

B

ORG: none

14

TITLE: Large-scale operation and pilot-plant tests of the sulfate-peroxide method for processing pyrochlore products

SOURCE: Ref. zh. Metallurgiya, Abs. 3G146

REF SOURCE: Nauchn. tr. Irkutskiy n.-i. in-t redk. met., vyp. 12, 1965, 294-307

TOPIC TAGS: niobium, ~~niobium separation,~~ pyrochlore product, MINERAL, CHEMICAL SEPARATION

21 21

ABSTRACT: Production and pilot-plant tests were made with the sulfate-peroxide process in separating Nb from pyrochlore products. The technological parameters were specified, and the results of laboratory tests were verified. Economic calculations were made for large-scale operation to demonstrate that the method is usable

Card 1/2 UDC: 669.293.09

L 43778-66

ACC NR: AR6022161

for a parent pyrochlore product with the Nb_2O_5 content exceeding 4—5%. F. Svodtseva. [Translation of abstract] [KP]

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: none/ [illegible]
OTH REF: none/

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Card 2/2

ACC NR: AR6035489 SOURCE CODE: UR/0081/66/000/017/V141/V141

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TITLE: Search for new ways of preparing pure scandium, lanthanum and neodymium oxides

SOURCE: Ref. zh. Khimiya, Part I, Abs. 17V32

REF SOURCE: Nauchn. tr. Irkutskiy n.-i. in-t redk. met., vyp. 13, 1965, 390-398

TOPIC TAGS: scandium compound, lanthanum oxide, neodymium compound, metal purification

ABSTRACT: The following methods of purifying 99% Sc_2O_3 were studied: leaching impurities out of solid oxide, precipitation and extraction of Sc from aqueous solutions, selective extraction of impurities. The extent of removal of Si, Ca, Mg, Al, Fe, Ti, Zr and Yb by each of these methods was determined. It was found that a combination of several methods (for example, thiosulfate and oxalate precipitation of Sc and extraction of Zr with 2.5% TBP) produces Sc_2O_3 of > 99.95% purity. The possibility of removing La and Nd oxides from impurities other than rare earths was investigated. Selective precipitation of rare earths in the form of hydroxide and oxalate, crystallization of $LaCl_3 \cdot 7H_2O$ and $NdCl_3 \cdot 6H_2O$ isothermally and during salting out with hydrogen chloride, and selective elution of impurities with oxalic acid with KU-2 cation exchange resins on which the rare earth element was adsorbed were studied. It

Card 1/2

ACC NR: AR6035489

was found that salting out with hydrogen chloride followed by sorption of the rare earth element on the cation exchange resin and elution of the impurities with oxalic acid produces La_2O_3 and Nd_2O_3 of more than 99.99% purity. Authors' abstract. [Translation of abstract]

SUB CODE: 07

Card 2/2